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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/612,222

07/03/2003

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SUITE 700

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EXAMINER

CHANG, RICK KILTAE

ART UNIT

PAPER NUMBER

3726

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/612,222	<b>Applicant(s)</b> AKAGAWA ET AL.	
	<b>Examiner</b> Rick K. Chang	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15, 17, 19-31, 33, 35, 49 and 50 is/are pending in the application.
- 4a) Of the above claim(s) that are not listed in item 6 below is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 7, 8, 11-13, 15, 17, 19, 20, 22, 25, 26, 29-31, 33, 35 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/27/08 has been entered.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-2, 4, 7-8, 11-13, 15, 17, 19-20, 22, 25-26, 29-31, 33, 35, and 49 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Detecting, calculating, determining, correcting and performing steps do not result in a physical transformation nor do they appear to provide a useful, concrete and tangible result. They appear to manipulate data in a computer. Further, the means do not result in a physical transformation nor do they appear to provide a useful, concrete and tangible result. They appear to be a CPU, a RAM, a ROM or a floppy disk to manipulate data in a computer.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4, 7-8, 11-13, 15, 17, 19-20, 22, 25-26, 29-31, 33, 35 and 49, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Taff et al (US 6,165,658) in view of Leedy (US 5,103,557).

Re claims 1, 4, 19 and 22: Taff discloses detecting, before said board is covered with a first insulating layer, the actual position of a first electronic component formed on a surface of said board (col. 7, lines 22-57 and col. 8, lines 55-58); calculating a displacement between the design position of said first electronic component and the actual position of said first electronic component on the surface of said board, and holding said displacement as first displacement data (col. 8, lines 58-65); determining whether the first displacement data represents a displacement that exceeds a predetermined maximum value at which the board is rendered defective (12 and 24 in Fig. 1; col. 7, lines 66-67 and col. 8, lines 1-5 and col. 8, lines 5-45); if the represented displacement does not exceed the predetermined maximum value (col. 8, lines 5-45), correcting, based on said first displacement data, design data to be used for processing said board after said board is covered with said first insulating layer to form a wiring pattern connected to said first electrical component (col. 8, lines 65-67 and col. 9, lines 1-2); and forming via holes in the first insulating layer in accordance with the corrected design data, thereby compensating for the actual location of the displaced first electronic component in a subsequent layer (col. 7, lines 22-57 and col. 8, lines 44-54); discloses if the represented displacement does exceed the predetermined maximum value, performing no corrections (12 and 24 in Fig. 1; col. 7, lines 66-67 and col. 8, lines 1-5), except for detecting is performed before a first insulating layer covers the board.

Leedy discloses detecting is performed before a first insulating layer covers the board (in Fig. 5, there is no insulating layer between 15-1 and 2-1 as well as 15-2 to 2-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taff by detecting is performed before a first insulating layer covers the board, as taught by Leedy, for the purpose of determining the positions of the electronic components.

Re claims 2 and 20: Taff discloses applying, based on said design data corrected in said correcting, a maskless exposure to the board covered with said first insulating layer (col. 9, lines 12-26).

Re claims 7-8, 11-12, 25-26 and 29-30: Taff discloses applying, based on said design data corrected in said correcting, based on said second displacement data, a maskless exposure to said board covered with said second insulating layer (col. 9, lines 12-26).

Re claims 13, 15, 17, 31, 33 and 35: Taff discloses that when the actual position of a terminal of the formed electronic component is displaced from an end of a wiring line that is defined in the design data as being the end to be connected to the terminal of the electronic component (col. 8, lines 55-63; for example, in Fig. 1, a wiring between terminals 10 and 12 connects to terminal 14 instead of connecting to terminal 12 as defined in the design data), the correcting, based on the second displacement data (displacement between the actual and the design data), corrects the design data so as to move the end of the wiring line to be connected to the terminal of the electronic component to the actual position of the formed electronic component (col. 10, lines 14-17; redirecting the wiring between terminals 10 and 14 to terminals 10 and 12).

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Claim 49: Taff discloses in col. 17, lines 12-20 calculating correction file relative to a CAD reference (means for calculating a displacement; a CPU of a computer) and implementation of the correction (means for correcting; a CPU of a computer); means for determining whether the first displacement data represents a displacement that exceeds a predetermined maximum value at which the board is rendered defective (12 and 24 in Fig. 1; col. 7, lines 66-67 and col. 8, lines 1-5 and col. 8, lines 5-45; a CPU of a computer); if the represented displacement does not exceed the predetermined maximum value (col. 8, lines 5-45), correcting, based on said first displacement data, design data to be used for processing said board after said board is covered with said first insulating layer to form a wiring pattern connected to said first electrical component (col. 8, lines 65-67 and col. 9, lines 1-2); and forming via holes in the first insulating layer in accordance with the corrected design data, thereby compensating for the actual location of the displaced first electronic component in a subsequent layer (col. 7, lines 22-57 and col. 8, lines 44-54); discloses if the represented displacement does exceed the predetermined maximum value, performing no corrections (12 and 24 in Fig. 1; col. 7, lines 66-67 and col. 8, lines 1-5), except for means for detecting.

Leedy discloses in Fig. 5 means for detecting (10, 36, 46, 48, 50, 38, 40, 15-1, 15-2 . . .).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taff by detecting is performed before a first insulating layer covers the board, as taught by Leedy, for the purpose of determining the positions of the electronic components.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional).

Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

RC  
June 26, 2008